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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,918	10/20/1999	DAVID E. ROSENSTEIN	COVDP001	3432

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EXAMINER	
RYMAN, DANIEL J	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/420,918	ROSENSTEIN ET AL.	
	Examiner	Art Unit	
	Daniel J. Ryman	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-19 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-19 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Response, filed 26 June 2006, with respect to the rejection(s) of claim(s) 1-3, 5-19, and 21-24 under Schuster et al. (USPN 6,954,454) and Milbrandt (USPN 6,631,120) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schuster et al. (USPN 6,954,454) and Liu et al. (USPN 6,349,096).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5-19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster et al. (USPN 6,954,454), of record, in view of Liu et al. (USPN 6,349,096).

4. Regarding claim 1, Schuster discloses a system using derived voice over data technology to provide analog voice telephony to a client premise, comprising: a derived voice over data termination device located outside of the client premise (Fig. 4, ITG: ref. 150, where the ITG is located outside of the client premise since it is located in the central office), said derived voice over data termination device configured to convert between base band signals and derived voice over data signals utilizing derived voice over data technology (col. 7, lines 44-55, where the ITG converts between base band signals, i.e. analog voice calls, and derived voice over data signals, i.e. IP packets); a connection between the client premise and the derived voice over data

termination device, wherein the connection between the client premise and the derived voice over data termination device carries analog frequencies (col. 8, line 62-col. 9, line 6, where voice calls, i.e. signals carried in the analog frequencies, are switched to the ITG); and a digital subscriber line access multiplexer coupled to the derived voice over data termination device and one of an ATM switch, a frame relay switch, and a router (Fig. 4, where the DSLAM is coupled either directly or indirectly to the data termination device, i.e. ITG, and a router, i.e. ref. 140).

Schuster does not expressly disclose coupling the digital subscriber line access multiplexer between the derived voice over data termination device and the router, the digital subscriber line access multiplexer being configured to multiplex derived voice over data signals to and from the derived voice over data termination device. Rather, Schuster discloses that the DSLAM is used to convert the transmissions from the broadband service lines into packets (col. 7, line 64-col. 8, line 3), where the ITG is used to convert analog voice calls into digital packets (col. 7, lines 44-55). Liu teaches, in a DSLAM system, using a single DSLAM to handle both analog voice calls and DSL connections resulting in "an improved DSLAM 240, which provides connection of a DSL line 225 to all data paths within the switching network 200, including PSTN 250, WAN 260" (col. 6, lines 29-34). Schuster further discloses transporting analog voice calls over the IP network (col. 7, lines 44-55), where VoIP packets that have been transported over the IP network are converted into PSTN calls upon reaching the destination CO (col. 7, lines 44-55). Schuster discloses that it is desirable to transport calls over the IP network, where possible, due to the benefits of the IP system (col. 2, lines 1-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement an improved DSLAM, as suggested by Liu, in the system of Schuster, such that the DSLAM of Schuster

converts both the voice calls destined for the IP network in addition to the DSL signals into IP packets since this permits the system to send all voice calls over the IP network, which results in lower costs, using a single mechanism. As such, Schuster in view of Liu suggests coupling the digital subscriber line access multiplexer between the derived voice over data termination device and the router, where since the DSLAM converts signals into IP packets, an obvious place to perform the conversion is before the DSLAM, and where the digital subscriber line access multiplexer multiplexes derived voice over data signals to and from the derived voice over data termination device, in conjunction with the DSL signals.

5. Regarding claim 2, Schuster in view of Liu discloses that said connection between the client premise and the derived voice over data termination device is powered by said derived voice over data termination device (Schuster: col. 6, lines 7-11).

6. Regarding claim 3, Schuster in view of Liu discloses that said connection between the client premise and the derived voice over data termination device is over a single metal wire pair (Schuster: col. 4, lines 32-34).

7. Regarding claim 5, Schuster in view of Liu discloses that the derived voice over data termination device is connected to at least one port of the digital subscriber line access multiplexer, each of said at least one port is selected from a group consisting of digital subscriber line (DSL) (Schuster: Fig. 4 where the DSLAM multiplexes DSL lines, such that one of the ports is a DSL port), DS1, DS3, OC-3, OC-12, Ethernet, E3, El, and OC48.

8. Regarding claim 6, Schuster in view of Liu discloses that the DSL includes asymmetric DSL (ADSL) (Schuster: col. 6, lines 1-2), single line DSL (SDSL), very high rate DSL (VDSL), high bit-rate DSL (HDSL), and rate adaptive DSL (RADSL).

9. Regarding claim 7, Schuster in view of Liu discloses that the derived voice over data termination device is selected from the group consisting of voice over ATM, voice over data network, voice over IP (Schuster: col. 7, lines 35-43, where voice IP packets are distinguishable from data IP packets), and voice over frame relay termination devices.

10. Regarding claim 8, Schuster in view of Liu discloses that the derived voice over data termination device is located in a wire center (Schuster: Fig. 4, where the DSLAM and other conversions occur within the central office, i.e. a wire center).

11. Regarding claim 9, Schuster in view of Liu discloses that the derived voice over data termination device is configured to receive and generate from base band voice signals packetized digital voice data (Schuster: col. 7, lines 44-55 and col. 7, line 64-col. 8, line 2).

12. Regarding claim 10, Schuster in view of Liu discloses a customer premise equipment located at the client premise, wherein the customer premise equipment is coupled to the connection between the client premise and the derived voice over data termination device (Schuster: Fig. 4, where a variety of CPE is coupled to the CO and therefore also coupled to the DSLAM of Schuster, as modified by Liu, which performs the data conversion before multiplexing for both voice and data calls).

13. Regarding claim 11, Schuster in view of Liu discloses that the customer premise equipment is configured to receive base band voice signals and digital data signals (Schuster: Fig. 4, where DSL lines signify that the CPE equipment handles both voice and digital data signals, see also col. 5, line 64-col. 6, line 2, where the splitter suggests the use of voice and data frequencies).

14. Regarding claim 12, Schuster in view of Liu discloses that the connection between the client premise and the derived voice over data termination device carries both base band voice signals and digital data signals (Schuster: Fig. 4, where DSL lines carry both base band voice signals and digital data signals, see also col. 5, line 64-col. 6, line 2, where the splitter suggests the use of voice and data frequencies).

15. Regarding claim 13, Schuster in view of Liu discloses that the connection between the client premise and the derived voice over data termination device includes a plain old telephone service splitter, the plain old telephone service splitter being connected to a port of the digital subscriber line access multiplexer and to a port of the derived voice over data termination device (Liu: Fig. 3, where a splitter separates the voice from the data signals in order to provide separate processing for the different types of signals and Schuster: Fig. 4, where a splitter separates the voice from the data signals in order to provide separate processing for the different types of signals, such that the system of Schuster as modified by Liu contains a splitter between the CPE and the derived voice over data termination device, i.e. the PCM bank of Liu or the ITG of Schuster, the splitter being connected to a port of the DSLAM and to a port of the data termination device, as shown in Schuster).

16. Regarding claim 14, Schuster in view of Liu discloses that the connection between the plain old telephone service splitter and the port of the digital subscriber line access multiplexer carries digital data signals and the connection between the plain old telephone service splitter and the port of the derived voice over data termination device carries base band voice signals (Schuster: Fig. 4 and Liu: Fig. 3).

17. Regarding claim 15, Schuster in view of Liu discloses that the connection between the client premise and the derived voice over data termination device includes a main distribution frame coupled between the derived voice over data termination device and the client premise (Schuster: Fig. 4, which teaches a main distribution frame, ref. 210).

18. Regarding claim 16, Schuster in view of Liu discloses that the derived voice over data termination device is a voice over data termination device configured to support transmission to one of a multiplexer and a switch (Schuster: Fig. 4, where the ITG connects to a router, which is, as broadly defined, a switch), and wherein the voice over data termination device is configured to support transmission utilizing digital subscriber line (DSL) (Schuster: Fig. 4, where the ITG accepts signals from the splitter, where the signals were transmitted over DSL), DS1, DS3, OC-3, OC-12, Ethernet, E3, El, and OC48.

19. Regarding claim 17, Schuster discloses a derived voice over data packet network, comprising: a derived voice over data termination device located in a wire center and coupled to a client premise over a single metal wire pair (where ITG: ref. 150, i.e. voice over data termination device, is located in the central office, i.e. wire center, see Fig. 4, and where the client connects to the data termination device through a single metal wire pair, col. 4, lines 32-34), the derived voice over data termination device being configured to convert between base band signals and derived voice over data signals utilizing derived voice over data technology (col. 7, lines 44-55, where the ITG converts between base band signals, i.e. analog voice calls, and derived voice over data signals, i.e. IP packets); a derived voice over data switch coupled to the derived voice over data termination device and to a public switched telephone network (Fig. 4, where the ITG is directly coupled to a router, which is, as broadly defined, a switch, and

indirectly coupled to the PSTN, ref. 229); and a digital subscriber line access multiplexer coupled to the derived voice over data termination device and the derived voice over data switch (Fig. 4, where the DSLAM is coupled either directly or indirectly to the data termination device, i.e. ITG, and a router, i.e. ref. 140).

Schuster does not expressly disclose coupling the digital subscriber line access multiplexer between the derived voice over data termination device and the derived voice over data switch, the digital subscriber line access multiplexer being configured to multiplex derived voice over data signals to and from the derived voice over data termination device. Rather, Schuster discloses that the DSLAM is used to convert the transmissions from the broadband service lines into packets (col. 7, line 64-col. 8, line 3), where the ITG is used to convert analog voice calls into digital packets (col. 7, lines 44-55). Liu teaches, in a DSLAM system, using a single DSLAM to handle both analog voice calls and DSL connections resulting in "an improved DSLAM 240, which provides connection of a DSL line 225 to all data paths within the switching network 200, including PSTN 250, WAN 260" (col. 6, lines 29-34). Schuster further discloses transporting some analog voice calls over the IP network (col. 7, lines 44-55), where some VoIP packets that have been transported over the IP network are converted into PSTN calls upon reaching the destination CO (col. 7, lines 44-55). Schuster discloses that it is desirable to transport calls over the IP network, where possible, due to the benefits of the IP system (col. 2, lines 1-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement an improved DSLAM, as suggested by Liu, in the system of Schuster, such that the DSLAM of Schuster converts both the voice calls destined for the IP network in addition to the DSL signals into IP packets since this permits the system to send all

voice calls over the IP network, which results in lower costs, using a single device. As such, Schuster in view of Liu suggests coupling the digital subscriber line access multiplexer between the derived voice over data termination device and the derived voice over data switch, where since the DSLAM converts signals into IP packets, an obvious place to perform the conversion is before the DSLAM, and where the digital subscriber line access multiplexer multiplexes derived voice over data signals to and from the derived voice over data termination device, in conjunction with the DSL signals.

20. Regarding claim 18, Schuster in view of Liu discloses that the derived voice over data switch is coupled to the public switched telephone network via a voice gateway and a voice switch (Fig. 4, where the router, ref. 240, i.e. the "derived voice over data switch," is coupled to the PSTN through a voice gateway, i.e. RAS, ref. 260, and voice switch, i.e. CO switch).

21. Regarding claim 19, Schuster in view of Liu suggests a regional switching center, the regional switching center includes the derived voice over data switch (where, as broadly defined, provider A, ref. 242a, contains is a regional switching center that inherently includes a router, i.e. the derived voice over data switch.

22. Regarding claim 21, Schuster discloses a method for providing base band voice telephony to a client telephone, comprising: providing a derived voice over data termination device in a wire center (Fig. 4, where ITG: ref. 150, i.e. voice over data termination device, is located in the central office, i.e. wire center), the derived voice over data termination device being configured to convert between base band signals and derived voice over data signals utilizing derived voice over data technology (col. 7, lines 44-55, where the ITG converts between base band signals, i.e. analog voice calls, and derived voice over data signals, i.e. IP packets);

providing a base-band analog connection between the client telephone and the derived voice over data termination device (col. 8, line 62-col. 9, line 6, where voice calls, i.e. signals carried in the analog frequencies, are routed to the ITG); transmitting base-band analog voice signals between the client telephone and the derived voice over data termination device in the wire center (col. 8, line 62-col. 9, line 6, where voice calls, i.e. signals carried in the analog frequencies, are routed to the ITG); and transmitting derived voice over data signals between the derived voice over data termination device and a voice gateway connected to a public switched telephone network (Fig. 4, where VoIP packets are transmitted over the RAS, i.e. a "voice gateway," which is connected to a PSTN in order to permit voice calls to be transmitted over the PSTN).

Schuster does not expressly disclose transmitting derived voice over data signals between the derived voice over data termination device and a voice gateway connected to a public switched telephone network by multiplexing the derived voice over data signals through a digital subscriber line access multiplexer, the digital subscriber line access multiplexer being coupled between the derived voice over data termination device and the voice gateway. Rather, Schuster discloses that the DSLAM is used to convert the transmissions from the broadband service lines into packets (col. 7, line 64-col. 8, line 3), where the ITG is used to convert analog voice calls into digital packets (col. 7, lines 44-55). Liu teaches, in a DSLAM system, using a single DSLAM to handle both analog voice calls and DSL connections resulting in "an improved DSLAM 240, which provides connection of a DSL line 225 to all data paths within the switching network 200, including PSTN 250, WAN 260" (col. 6, lines 29-34). Schuster further discloses transporting some analog voice calls over the IP network (col. 7, lines 44-55), where some VoIP packets that have been transported over the IP network are converted into PSTN calls upon

reaching the destination CO (col. 7, lines 44-55). Schuster discloses that it is desirable to transport calls over the IP network, where possible, due to the benefits of the IP system (col. 2, lines 1-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement an improved DSLAM, as suggested by Liu, in the system of Schuster, such that the DSLAM of Schuster converts both the voice calls destined for the IP network in addition to the DSL signals into IP packets since this permits the system to send all voice calls over the IP network, which results in lower costs, using a single device. As such, Schuster in view of Liu suggests transmitting derived voice over data signals between the derived voice over data termination device and a voice gateway connected to a public switched telephone network, where the voice gateway connected to a PSTN is located at the destination end of the IP network, by multiplexing the derived voice over data signals through a digital subscriber line access multiplexer, the digital subscriber line access multiplexer being coupled between the derived voice over data termination device and the voice gateway.

23. Regarding claim 22, Schuster in view of Liu discloses that said base-band analog connection between the client telephone and the derived voice over data termination device is over a single metal wire pair (Schuster: col. 4, lines 32-34).

24. Regarding claim 23, Schuster in view of Liu discloses that said base-band analog connection between the client telephone and the derived voice over data termination device is via a splitter (Liu: Fig. 3, where a splitter separates the voice from the data signals in order to provide separate processing for the different types of signals and Schuster: Fig. 4, where a splitter separates the voice from the data signals in order to provide separate processing for the different types of signals, such that the system of Schuster as modified by Liu contains a splitter

between the CPE and the derived voice over data termination device, i.e. the PCM bank of Liu or the ITG of Schuster, the splitter being connected to a port of the DSLAM and to a port of the data termination device, as shown in Schuster), said method further comprising transmitting digital data signals between a client premise equipment and the splitter over said single metal wire pair (Schuster: col. 4, lines 32-34).

25. Regarding claim 24, Schuster in view of Liu discloses transmitting digital data signals between the splitter and the digital subscriber line access multiplexer (Schuster: Fig. 4 and Liu: Fig. 3).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J Ryman
Examiner
Art Unit 2616

Daniel Ryman